

Thank you for your purchase of the most elite combination of price and performance in the 600 mini sprint world today. Our goal is go beyond just selling you a car. When you succeed, we succeed. This assembly manual is designed to take you from taking delivery of your New XXX Mini Sprint to cashing big checks and kissing beautiful trophy girls. If you need anything further in regards to tech advice, additional components, or just want to inform us of your latest win, simply use the contact info below for your immediate results.

Contact us by email **ANYTIME** at the following email address...

Sales or Tech Support:

sales@xxxraceco.com

Contact us by phone between 9:00 AM and 5:00 PM Pacific Standard Time at the following phone numbers...

Sales* (Toll Free):

866.632.9925

Dealer Inquires:

866.632.9925

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360.757.4224

Triple X Race Components Inc



Triple X Race Components 600 Mini Sprint Assembly Manual

The purpose of this manual is to aid you in assembling your Triple X Mini Sprint. Follow this guide for the most efficient method of assembling your new car!



Tools Needed:

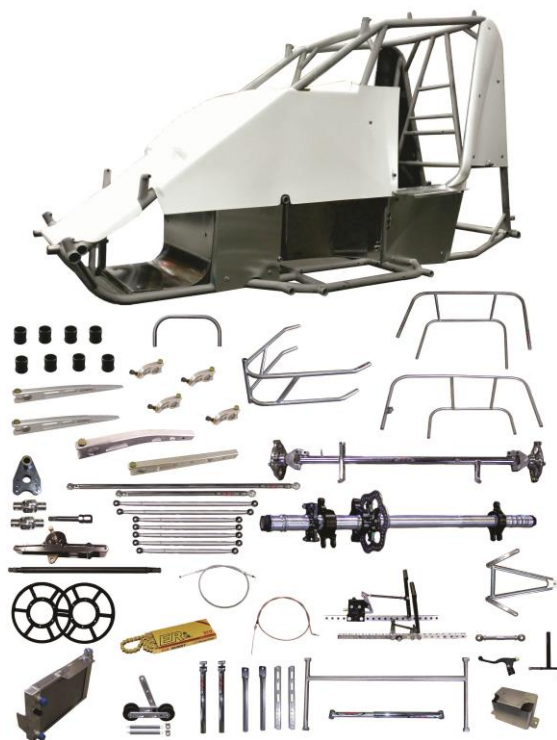
- Drill with the following bits: 3/16", 1/8", 1/4", 3/8", 7/16"-Unibit for Dzus Mounting
- Taps: 7/16"-20, 3/8"-24
- Loctite Blue & Teflon Tape
- Tie Wraps
- Grease Gun (we recommend Energy Release G-200 Grease)
- Sockets/Wrenches 3/16"-11/16" and 8mm-15mm (for engine install)
- Screwdrivers
- Die Grinder
- Rubber Mallet
- Small snap ring pliers
- Tape Measure and Digital Torpedo Level
- Allen Wrenches
- Jig saw with non-aggressive blades (for body mounting)
- Pop Rivet Gun (3/16" and 1/8" Rivets)
- WD-40 or equivalent, anti-seize, brake cleaner and blow nozzle.
- Sharpie
- Square (if mounting body)
- 7/16" Straight Rod 36" long
- Highly Recommended-5 Dzus Transfer Punches (for mounting body)
- Recommended-Torsion Bar bushing reamer

Triple X Race Components 600 Mini Sprint Assembly Manual

Components Needed: TXRC-600-CH-2008-Super Deluxe Kit

Kit Includes:

- XXX 600 Chassis
- (40) Dzus Springs (on chassis)
- (8) Torsion Bar Bushings
- Bolt Kit
- Hood
- (2) Hood Plate
- Left Arm Guard
- Right Arm Guard
- (60) Dzus Spring
- (60) Dzus Button
- Dash
- Floor Pan (Front)
- Floor Pan (Rear)
- Left Side Kick Panel (2 Piece)
- Right Side Kick panel (3 Piece)
- Chain Guard
- Motor Shroud
- Electronics Panel
- Radiused Front Air Box
- Bumpers and Nerfs
- Front Bumper
- Rear Bumper
- Left Nerf
- Right Nerf
- Right Front Torsion Arm
- Left Front Torsion Arm
- Right Rear Torsion Arm
- Left Rear Torsion Arm
- (4) Torsion Stops
- 10 1/4" Jacobs Ladder (Complete)
- (3) 3/8" X 15 1/2" Front Radius Rod
- 3/8" X 15 1/2" Panhard Rod
- 3/8" X 14 1/2" Drag Link Rod
- 7/16" X 20" Left Rear Radius Rod
- 7/16" X 21" Right Rear Radius Rod
- 7/16" X 20" Brake Rod. 4130 Chromoly.
- (4) 3/8" Right Hand Thread Alum Rod End
- (4) 3/8" Left Hand Thread Alum Rod End
- (1) 3/8" Right Hand Thread Steel Rod End
- (1) 3/8" Left Hand Thread Steel Rod End
- (2) 7/16" Right Hand Thread Alum Rod End
- (2) 7/16" Left Hand Thread Alum Rod End
- (1) 7/16" Right Hand Thread Steel Rod End
- (1) 7/16" Left Hand Thread Steel Rod End
- (2) 7/16" Right Hand Thread 4130 Rod End
- (5) 3/8" Right Hand Thread Jam Nut
- (5) 3/8" Left Hand Thread Jam Nut
- (5) 7/16" Right Hand Thread Jam Nut
- (3) 7/16" Left Hand Thread Jam Nut
- Upper Steering Shaft
- Lower (Intermediate) Steering Shaft
- (2) Steering U-Joint
- Steering Box. Frame Mounted. Rack and Pinion.
- Upper Steering Support Bracket
- Complete Front End
- Complete Rear End
- Chain
- Chain Tensioner Kit
- Sprocket/Chain Guide Kit. Disc Style.
- Master Cylinder. Billet Aluminum. 3/4".
- "XPRS" Brake and Throttle Pedal System (Complete)
- Radiator
- Shift Lever
- Shift Lever to Motor Linkage (Rod). Complete.
- Clutch Lever
- Clutch Cable
- Throttle Cable
- Battery Box
- Motor Adjuster (complete)
- Top Wing Tree
- Top Wing Post
- Top Wing Manual Slider
- Nose Wing Front Post. Chassis Spud to Center Mount.
- Nose Wing Aero Straps



Triple X Race Components 600 Mini Sprint Assembly Manual

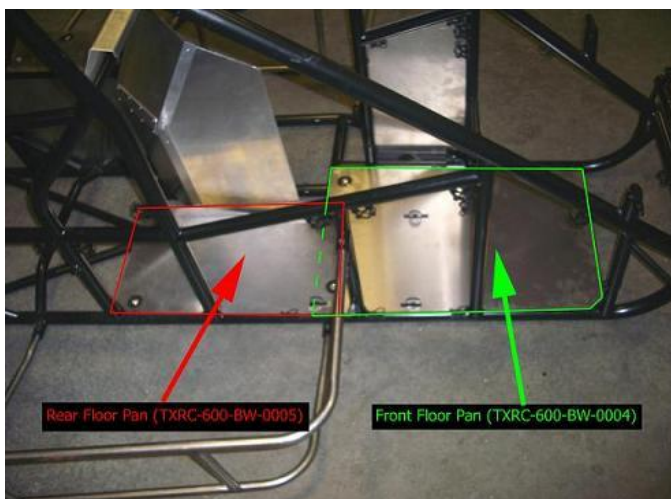
We encourage you to follow the assembly manual when building your new car. We use this method to avoid scratching the body when mounting hardware in chassis. You will essentially install all of the cockpit components, pedal system, and steering before removing them all to take your chassis to powdercoat and/or paint.

Install Nerfs on Chassis:

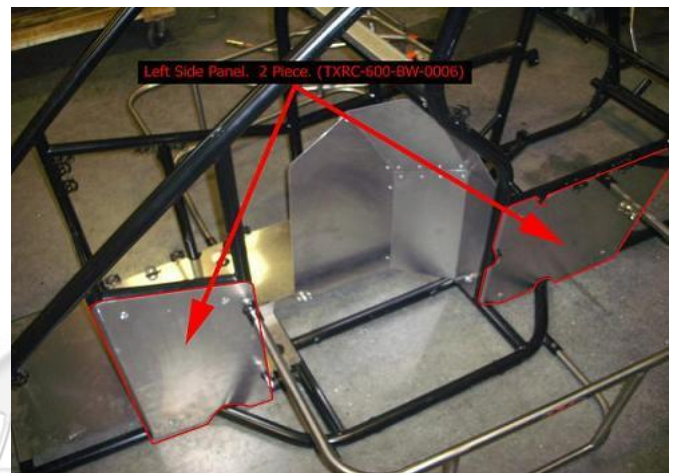
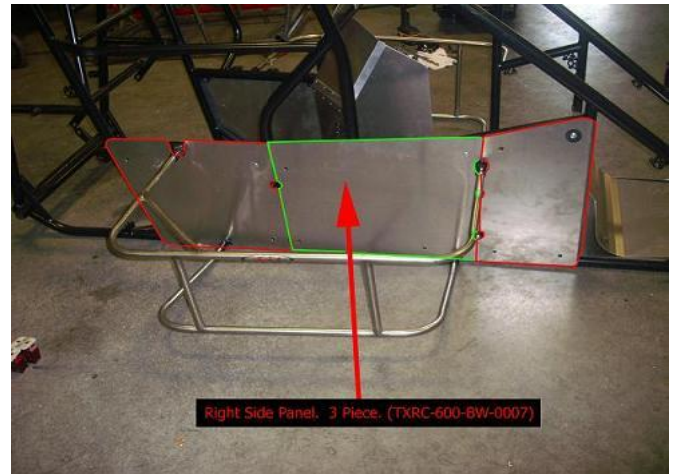
Using a rubber mallet, install all Nerfs so that Nerf bar is completely in the Nerf socket and drill through with a 3/16" bit. Remove Nerfs until final assembly.

Mount Body on Chassis:

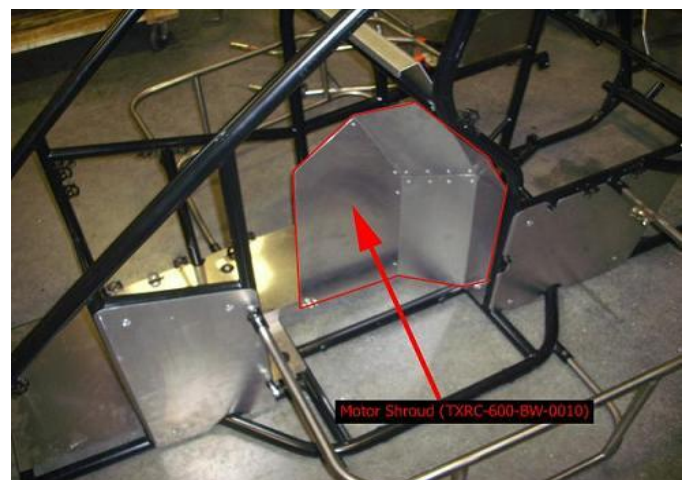
1. Mount Floorpan (Front Floorpan location is fixed. Rear Floorpan Should be installed at 7" from LS radius rod upright to inside of raised lip)



2. Mount all Kick Panels (Align even with bottom rail and be sure to cover all frame vertical tubes and dzus holes evenly)



3. Place motor shroud on engine side of floorpan lip and mount 90 degrees to floorpan (be sure not to let this tilt inward toward motor for clearance)



Triple X Race Components 600 Mini Sprint Assembly Manual

4. Mount front radiator ramp



5. Mount Dash Panel



6. Mount Right and Left Side Armguards

7. Cut hood to wrap around downtubes (measure 12 1/4" (Fig 2) from back of hood to front of cut at 19" between slots (Fig 1))

Figure 1



Figure 2



Cut Dimensions Below for Downtubes

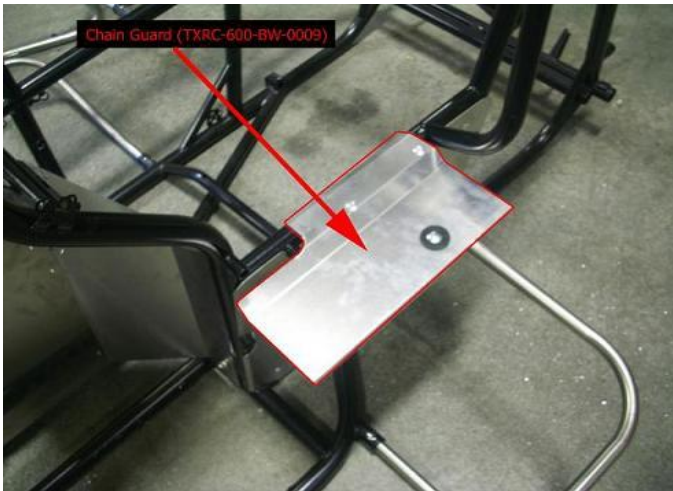


8. Install Hood Plates (3/16" pop rivet to each side with dzus holes in center) with as much fiberglass coverage as possible on the center of the hood. Install in center of hood front to back)
9. Mount hood level with Right Side Armguard
10. Mount Radiator in Center of Tabs (make sure radiator is vertical)
11. Mount the electronics panel to tab on radiator and dzus tab on frame



Triple X Race Components 600 Mini Sprint Assembly Manual

12. Mount Chain guard to Chassis (It helps to have left side Nerf installed first as it also mounts to tab on Nerf).



13. Mount battery box (1 ½" from LS of floorpan and even with Dzus hole in front of motor shroud)

Mount Steering Assembly:

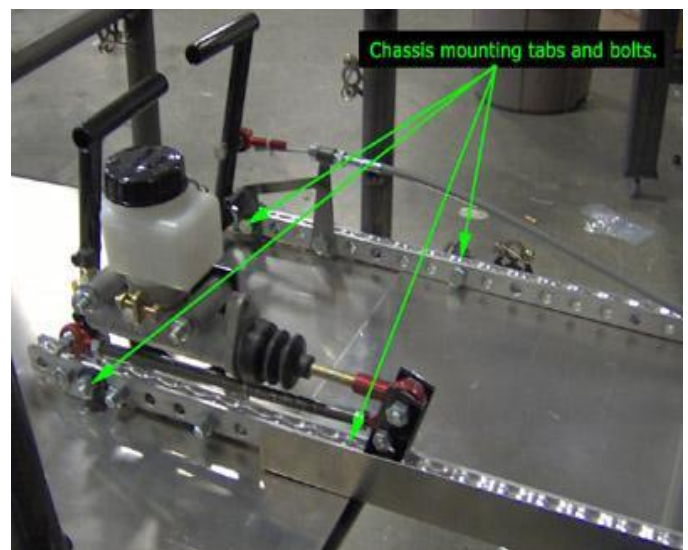
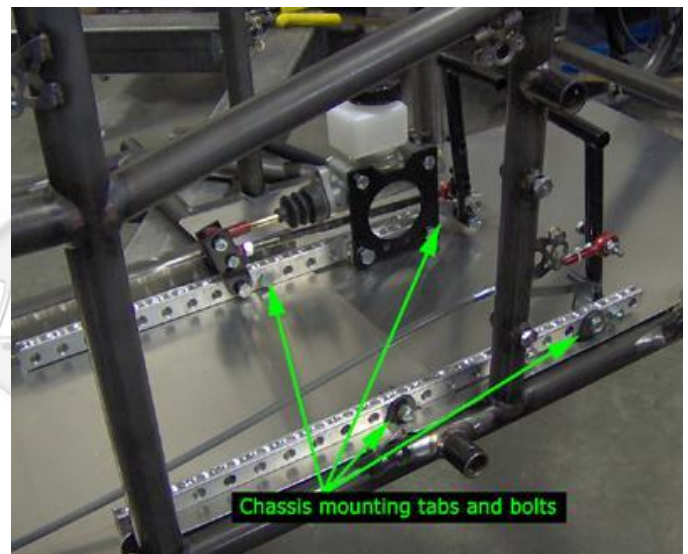
1. Remove all panels and fiberglass, leaving radiator ramp in car.
2. Install steering gear by drilling holes through the ramp and installing gear in spuds provided.
3. Mount all shafts and u-joints to align upper steering mount. Drill upper steering bar with 5/16" to align top steering mount.



Mount Pedal Assembly:

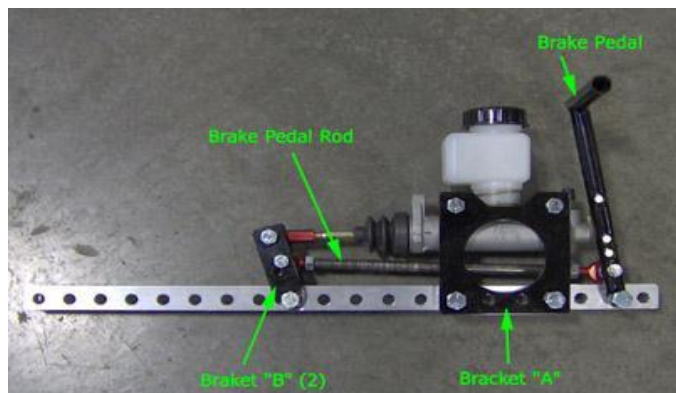
Install pedal system rails loosely to fit driver with seat sitting in cockpit and steering complete. Move pedals according to driver preference and locate master cylinder in car. This will allow for easy installation later. The pedal system is built to utilize either the MCP or Wilwood style master cylinder. Use the diagrams to build the pedal system with the master cylinder you intend to use. See examples below.

Wilwood Style Master Cylinder

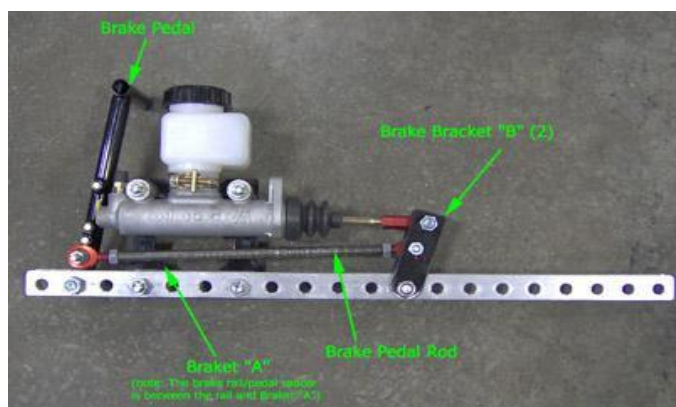
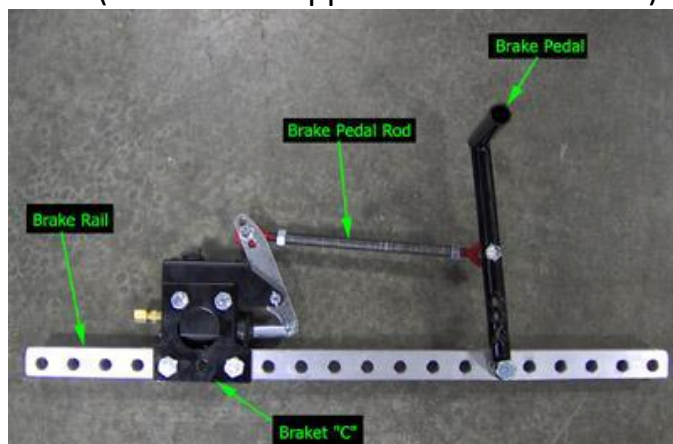


Triple X Race Components 600 Mini Sprint Assembly Manual

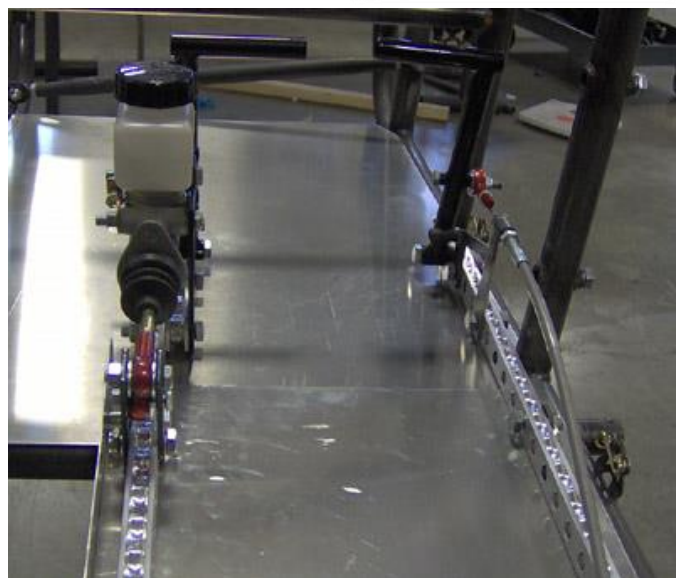
Wilwood Style Master Cylinder Cont.
Side View



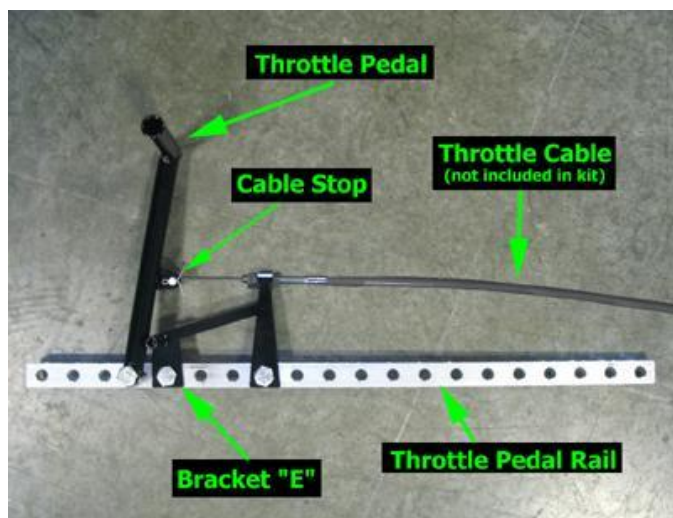
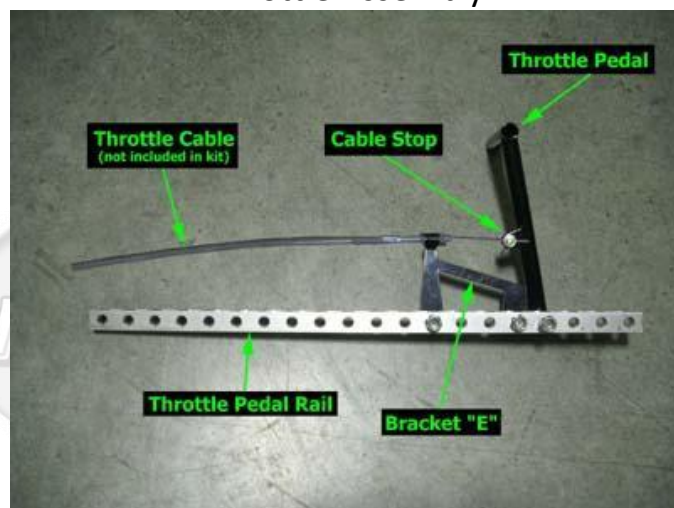
MCP Style Master Cylinder
(Note Lever Opposite from Wilwood)



Rear View



Throttle Assembly



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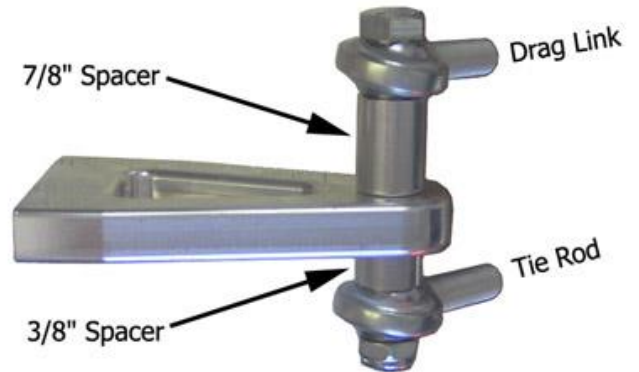
Powdercoat/Paint:

1. Remove all components and powder coat/paint chassis. We recommend not painting hood until you install engine and cut hood to fit around engine to your tolerances.
2. Once powdercoated, float the appropriate tap through threaded spuds and drill bit through all spuds that require a through bolt. This will clean off any Powdercoating before assembly begins.
3. Reinstall pedal system and route brake line to rear of car. Be sure to clear all moving components.

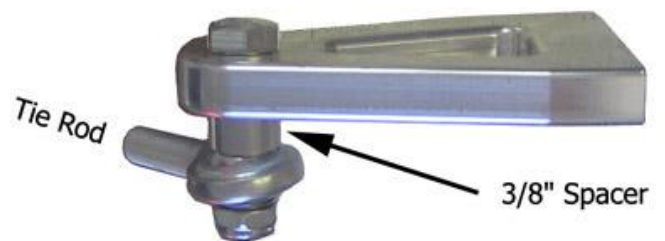
Front End Component Assembly:

1. Assemble the front end using grease where kingpin contacts axle and spindles. Install kingpin shims between axle and spindle at the bottom using 1 shim on top of thrust bearing and one below. We recommend that you pop the seals out of the front hub bearings before use, even when new and install quality grease in front bearings. Tighten all components on front end. Apply Blue Locktite to steering arm bolts. Be sure not to tighten hubs to spindles so tight that they will not spin freely. Install tie rod without tightening jam nuts on lower side of steering arms. Do not install wheels yet. Small 3/8" front end spacers should be between heims and steering arm with large spacer on top to accept drag link.

Left Front Spindle Arm Layout



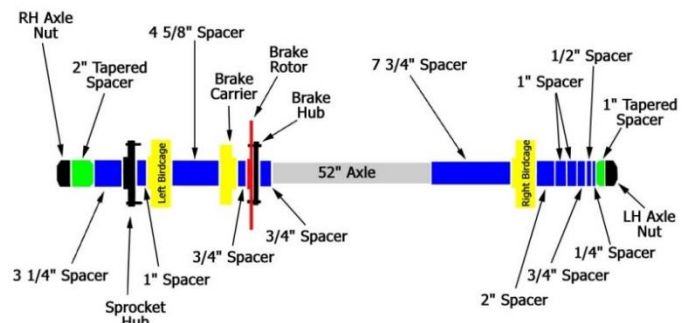
Right Front Steering Arm



Chassis and Rear Suspension Assembly:

(Watts Link Configuration)

1. Install 3/8" heims with nuts in all front end radius rods. (14 1/2", 15 1/2" and 36 1/2") using a small amount of anti-seize on end of each heim prior to installation in rod. (Do not tighten jam nuts yet). Install 7/16" heims and nuts in 20", 21" and Brake Rod. Install 4130 7/16" heims and nuts in rear arms.
2. Assemble rear axle according to the diagram. Use spacers in place of the wheels so that the nuts will tighten.



Triple X Race Components 600 Mini Sprint Assembly Manual

Installing Rear Suspension: (Watts Link Configuration)

1. With chassis sitting level, install torsion bar bushings in chassis carefully as not to crack them.
2. Use a bushing reamer (preferred) or a die grinder with flap wheel to (GENTLY!) remove enough material to have torsion bars move freely in chassis.
3. Install all 4 torsion bars with bar numbers to the arm side of the car.
4. Install the LR arm (set at 12 ½" from center of heim to center of splines) and RR arm (set at 11") and slide set up rod (7/16" rod on the tools list) through both heims without rear end in car. Measure from front of rear torsion tubes to back of 7/16" rod on both sides with heims resting on 2" set up blocks. Rod should measure ~10 3/16". Next adjust the right rear arm to square the rear end to the chassis. Take your time and make this perfect.
5. Place the rear end in the car using **4" blocks**.
6. Install the rear arms on the rear torsion bars.
7. Slide birdcage bolt through cage and arm and thread into birdcage a couple threads. Hook the rear arms to the birdcages.
8. Center the left rear arm so that it is centered in the middle of the flag of the left birdcage.

Leveling the Birdcages ...

1. Bolt both (rear) radius rods to the birdcages and car.
2. Using a level, adjust the left rear radius rod until the birdcage is 90 degrees to the chassis. Note: There is a "flat" machined into the birdcage specifically for this purpose.
3. Using a level, adjust the right rear radius rod until the birdcage is 90 degrees to the chassis. Note: There is a "flat" machined into the birdcage specifically for this purpose.

Attach the Ladder ...

1. Bolt the Jacobs Ladder in the car (being careful not to move the rear axle, birdcages, etc).
2. Adjust the rod end (in the right side birdcage) to the correct length so that the Jacobs Ladder attaches to the birdcage without moving the axle or birdcage. This is simply a case of putting the Ladder into position, and aligning the holes in the Ladder with the eye on the birdcage rod end. Keep adjusting the rod end in the birdcage until the two line up.
3. Attach the Jacobs Ladder bolt to Birdcage.
4. **Recheck and Tighten ...**
5. Recheck that the left rear arm is still centered in the birdcage flag, and both birdcages are 90 degrees to the chassis.
6. Tighten all jam nuts (being careful not to move anything until all jam nuts are tight), and Ladder bolt.

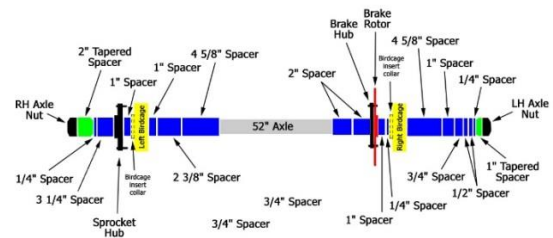
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Panhard Adjuster Handle Components

Installation:

(Panhard Configuration Only)

1. Bolt the Adjuster handle to chassis.
2. Bolt the Bell Crank to frame and tighten jam nut with enough play for bell crank to move freely but doesn't move side to side.
3. Bolt slider tube to the chassis with the slider sleeve on the tube.
4. Now attach the 4" radius rod to the slider sleeve and to the bell crank. Then attach the 15 1/2" rod from the handle to the bell crank.
5. With the handle all the way in the front hole, adjust the rod till it gets close to the bell crank without touching it then tighten the jam nuts. Adjust the 4" rod all the way together so the slider sleeve is as high as you can get it. (The higher it is, the freer the car will be, and the lower it is the tighter the car will be.)
6. When squaring the rear end we recommend to have the handle in the middle so you have adjustment up and down. This measurement will be around 8" to the top mount on the slider sleeve from the top of the bottom chassis. Easiest way to do it is to lay a straight edge along the bottom of the frame and just measure up and add the thickness of the straight edge. This measurement will change depending on how you have the 4" rod set.



7. Insert complete rear axle into chassis. See Diagram Above (right).

Installing Rear Suspension:

Panhard Configuration...

1. Install Heims and Nuts in the Torsion Arm Shackles. Set Torsion arm Shackles to 4" from center of heim to center of heim with the top left hand heim 90 degrees to the bottom right hand heim. Install shackles to the back of the birdcage on the top holes and tighten bolt until it get snug then back off so the bolt spins free, but is in the Nylock.
2. Place the rear axle in the chassis using 4" blocks.
3. Install rear torsion arms on the torsion bars.
4. Install the wishbones and hook them to the rear axle with the panhard clevis straight up and down.
5. Install rear arms to shackles using the bolt into the arms that has the custom head.
6. Install the 16" panhard bar (that is set to 19" from center of the heim to the center of the other heim) to the slider and tighten then hook the other side to the birdcage clevis.
7. Now with everything attached, adjust the front of the wishbones to locate the rear axle 14" from the back of the axle to the front of the rear torsion rack. When rear is square, tighten all jam nuts and bolts. Check to make sure the axle is still located at 14".

Triple X Race Components 600 Mini Sprint Assembly Manual

Front Axle Installation:

Install Front Axle in the Chassis...

1. Set the front end in the car; using a 2" block on the left side, and a 2" block on the right side.
2. Set the two right front radius rods to the same length from center of heim to center of heim. Set the (single) left front radius rod (approx.) 1/8" shorter than the right side rods. Leave the jam nuts loose.
3. Attach all three radius rods to car and axle as well as the panhard bar (tightening all nuts/bolts enough so none of them are loose).

Setting the Front Axle Offset (1 1/2" To The Right)...

1. Pick a side, and measure from the king pin (center) to a straight edge that runs vertically from the top rail to the bottom rail.
2. With the other side, measure from the king pin (center) to a straight edge that runs vertically from the top rail to the bottom rail.
3. Increase/Decrease the length of the panhard bar until the measurement on the right side is 1 1/2" longer than the measurement on the left side.

Squaring The Front Axle ...

1. On the right side; measure from the center of the rear axle to the center of the front axle. The measurement should be 61 1/4". Evenly adjust the right front radius rods until this measurement is achieved.

2. On the left side; measure from the center of the rear axle to the center of the front axle. The measurement should be 61 1/8" (for 1/8" lead, adjust this measurement as desired). Adjust the left front radius rods until the correct measurement is achieved.

Set the Castor ...

1. Measure the (current) angle of the car front and back by putting a digital level on the bottom rail.
2. Mark the top of the right front radius rods with a sharpie (and any other pencil, pen, etc).
3. Place the digital level on the right front steering arm.
4. Adjust the radius rods until the digital level reads between 8 and 10 degrees, compensating for the (current) angle of the car. The exact amount of caster will vary depending on driver preference. A good starting point is 10 degrees. Generally, the more castor in the car, the better the car will feel to the driver.
5. Recheck all of the measurements above to ensure nothing moved during squaring. If any measurement is not accurate, undo all the steps, and restart the entire process at step 4.
6. Once all measurements are correct, tighten all jam nuts (being careful not to move anything until all jam nuts are tight).

Set the Toe ...

Triple X Race Components 600 Mini Sprint Assembly Manual

1. Determine the amount of toe required.
This is a driver preference, usually between $1/8"$ and $1/4"$. A good starting point is $3/16"$.
2. Loosen the jam nuts on the tie rod.
3. Slide a tape measure through the frame, measure the distance between the left side and right side wheel beads at the inside bead at the back of the wheel (the portion of the wheel "most" towards the back of the car).
4. Holding a tape measure through the frame (close to the torsion tubes), measure the distance between the left side and right side wheel beads at the inside bead at the front of the wheel (the portion of the wheel "most" towards the front of the car).
5. Adjust these measurements by turning the tie rod in/out until the front measurement is $1/8"$ (or the desired amount of toe) larger than the back measurement.
Repeat steps 15 to 18 until the desired amount of toe is reached.
6. Tighten the tie rod jam nuts.

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Weekly Maintenance Schedule

Every Race

- Disassemble car, remove body work, wings, wheels, and clean thoroughly
- Clean torsion bars and bushings, and re-grease
- Check front hub bearings
- Check brake pads and re-bleed brakes
- Check shocks for air pockets and bent shafts
- Bolt check complete car
- Clean outerwear and air filter

2-3 Races

- Change engine oil and oil filter

4-6 Races

- Disassemble rear axle, clean and re-grease bearings
- Clean and re-grease rack and pinion
- Clean and re-grease front hub bearings

8-10 Races

- Dyno Shocks

12-15 Races

- Replace rear torsion bars

20-25 Races

- Replace front torsion bars



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MINI SPRINT WINTER MAINTENANCE TIPS

Remove the carburetors. (Cover intake openings) Clean carburetors exterior with brake clean and air. Make sure all dirt and debris is removed. Remove the float bowls. Remove all of the jets and place in carburetor cleaner for 24 hours. (Do not place any plastic items in carburetor cleaner) Remove the floats and gently clean the float needles and seats. Blow out all orifices with low air pressure. Reassemble floats and jets spray everything with WD-40 replace the float bowls. Remove the four slide caps by removing the 4 screws in each cap. Remove the spring, slide and diaphragm. Clean the slide and cavity with WD-40 (**DO NOT USE BRAKE CLEAN**) replace the slide and spring. Make sure the slide diaphragm is in the groove for a proper seal. You can blow air in the breather tubes and make sure the slide moves freely up and down. Spray all external linkage with WD-40.

- Remove fuel pump, clean and screen spray with WD-40.
- Flush fuel regulator. Fill it with WD-40.
- Check throttle cable and linkage for freedom of movement. Recommend lubing throttle cable and clutch cable with cable lube. If they do not move freely replace them prior to next race.
- Drain and replace the engine oil. Methanol blows past the rings and gets into the oil. The oil and methanol will separate over time and is not good for the engine.
- Remove the spark plugs and spray WD-40 into the cylinders while turning the engine over for about two minutes allowing the new oil to circulate through the engine. Replace the spark plugs.
- Drain and replace the coolant. Tip the car from side to side to make sure as much coolant is drained as possible. In cooler temps, engines will freeze-even during transport.
- Drain and replace the brake fluid. Flush the system well with clean fluid.
- Remove, clean and grease the front wheel bearings. Make sure they spin freely with all of the grease removed. If not, replace them. It is recommended to replace all bearings once a year at the very least.
- Remove, clean and grease the bird cage and brake hub bearings. Make sure they spin freely with all of the grease removed. If not replace them.
- Check brake rotor for trueness. Lightly sand both sides with 120 grit sand paper to remove build up. Start the new season with new brake pads.
- Check the rear axle for wear where it contacts the bird cages. The splines will wear and become loose.
- Remove the shocks and check the heim ends for freedom of movement. If not replace them. We highly suggest having the shocks dyno'ed once a year for proper operation. Rebuild as needed.
- Replace all torsion bar bushings.

Triple X Race Components 600 Mini Sprint Assembly Manual

- Remove the chain. Clean with brake clean while hanging use air to blow out all dirt and debris. Make sure the chain links do not bind if so replace the chain. Place the chain in a coffee can and cover with oil when ready to use next season let hang for a couple of days to allow the excess oil to drain off.
- Remove all body work and inspect the frame, engine mounts and seat mounts for cracks and or damage.
- Check seat belts for wear and dates. Store in climate controlled room.
- Remove fuel tank bladder and clean inside and out. Check for wear.
- Store all tires in a climate controlled room if you plan to use them the next season. Tires will seal over after 2 months, especially with temperature swings.



Triple X Race Components 600 Mini Sprint Assembly Manual

600 Mini Sprint Set Up

600 Jacobs Ladder Style

Tacky Track (Winged)

Left Front	Right Front
Shock: 2/2 Bar: 725 (125 coil) Block: 2" Turns: 2 In Wheel: 10"x6" with 3" offset	Shock: 2/1 Bar: 725 (140 coil) Block: 2" Turns: 0 Wheel: 10"x6" with 4" offset
Left Rear	Right Rear
Shock: 2/5 or 2/6 Bar: 725 (100 coil) Block: 2" Turns: 2 In Wheel: 10"x10" with 3" offset Spacing: As close to chain as possible.	Shock: 4 or 5 Bar: 725 (115 coil) Block: 2" Turns: 0 Wheel: 10"x10" with 4" offset Spacing: 13 1/2" to 14"

Top Wing Angle: ~ 14°

Nose Wing Angle: ~ 25°

Stagger: ~ 6" to 9" (depends on track)

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600 Jacobs Ladder Style

Average Track (Winged)

Left Front	Right Front
Shock: 2/2 Bar: 725 (125 coil) Block: 1 3/4" Turns: 2 In Wheel: 10"x6" with 3" offset	Shock: 2/1 Bar: 725 (140 coil) Block: 1 3/4" Turns: 0 Wheel: 10"x6" with 4" offset
Left Rear	Right Rear
Shock: 2/5 Bar: 725 (95 coil) Block: 2" Turns: 2 In Wheel: 10"x10" with 3" offset Spacing: As close to chain as possible	Shock: 4 Bar: 725 (105 coil) Block: 2" Turns: 2 In Wheel: 10"x10" with 4" offset Spacing: 13" to 13 1/4"

Top Wing Angle: ~ 18°

Nose Wing Angle: ~ 25°

Stagger: ~ 4 1/2" to 8" (depends on track)

Triple X Race Components 600 Mini Sprint Assembly Manual

600 Mini Sprint Set Up

600 Jacobs Ladder Style

Dry Slick (Winged)

Left Front	Right Front
Shock: 2/1 Bar: 725 (140 coil) Block: 1 3/4" Turns: 1 3/4 In Wheel: 10"x6" with 3" offset	Shock: 3/1 Bar: 725 (140 coil) Block: 1 3/4" Turns: 0 Wheel: 10"x6" with 4" offset
Left Rear	Right Rear
Shock: 2/5 Bar: 725 (95 coil) Block: 1 3/4" Turns: 1 3/4 In Wheel: 10"x10" with 3" offset Spacing: As close to chain as possible.	Shock: 3/4 Bar: 725 (95 coil) Block: 1 3/4" Turns: 0 Wheel: 10"x10" with 4" offset Spacing: 12 1/4" To 12 1/2"

Top Wing Angle: ~ 22°

Nose Wing Angle: ~ 25°

Stagger: ~ 4" to 6" (depends on track)

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600 Jacobs Ladder Style

Average Track (Non Wing)

Left Front	Right Front
Shock: 2/2 Bar: 725 (125 coil) Block: 2" Turns: 2 In Wheel: 10"x6" with 3" offset	Shock: 2/1 Bar: 725 (140 coil) Block: 2" Turns: 0 Wheel: 10"x6" with 4" offset
Left Rear	Right Rear
Shock: 2/5 Bar: 725 (95 coil) Block: 2 1/4" Turns: 2 In Wheel: 10"x10" with 3" offset Spacing: As close to chain as possible	Shock: 4 Bar: 725 (105 coil) Block: 2 1/4" Turns: 0 Wheel: 10"x10" with 4" offset Spacing: 14"

Stagger: ~ 4 1/2" to 8" (depends on track)

Triple X Race Components 600 Mini Sprint Assembly Manual

600 Mini Sprint Set Up ***600 Panhard Style (Slick)***

Left Front	Right Front
Shock: 2/1 Bar: 725 Block: 1 3/4" Turns (In LF Bar): 2 In Wheel: 10" x 6" with 3" Offset	Shock: 3/5 Bar: 725 Block: 1 3/4" Turns (In RF Bar): 1/2 Wheel: 10" x 6" with 4" Offset
Left Rear	Right Rear
Shock: 2/6 Bar: 725 Block: 2" Turns (In LR Bar): 2 In Wheel: 10" x 8" with 3" Offset Spacing: Close to Chain as Possible	Shock: 4 Bar: 725 Block: 2" Turns (In RR Bar): 1/2 Wheel: 10" x 14" with 5" Offset Spacing: 13 1/2"
Top Wing Angle:	~23°
Nose Wing Angle:	~23°
Rear Panhard:	6 1/2"-7 1/2" Vertical from Top of Bottom Rails
Stagger:	~6" to 7" (Depending on Track)



Left Front	Right Front
Shock: 2/2 Bar: 725 Block: 2" Turns (In LF Bar): 2 In Wheel: 10" x 6" with 3" Offset	Shock: 2/1 Bar: 725 Block: 2" Turns (In RF Bar): 1/2 Wheel: 10" x 6" with 4" Offset
Left Rear	Right Rear
Shock: 2/6 Bar: 725 Block: 2" Turns (In LR Bar): 2 In Wheel: 10" x 8" with 3" Offset Spacing: Close to Chain as Possible	Shock: 4 Bar: 725 Block: 2" Turns (In RR Bar): 1 Wheel: 10" x 14" with 5" Offset Spacing: 14 1/2"
Top Wing Angle:	~18°
Nose Wing Angle:	~23°
Rear Panhard:	9 1/2" Vertical from Top of Bottom Rails
Stagger:	~7" to 9" (Depending on Track)

Triple X Race Components 600 Mini Sprint Assembly Manual

Frequently Asked Questions

Q: What type of shocks are best to run with my Triple X 600 Mini Sprint?

A: Your Triple X Team recommends Afco Shocks. Afco has cornered the market on the open wheel shocks. Both non-adjustable, single adjustable, double adjustable and gas filled monotube single adjustable shocks are available with outstanding off the shelf performance. A perfect starter shock package is listed in the manual.

Q: Does it matter whether I run my shocks right side up or upside down?

A: For shock performance, very little.

Factors in shock performance include: Keeping shocks cool (away from exhaust).

Making sure shocks clear suspension.

Slight advantage in body up with unsprung weight.

Q: Should I run solid or hollow torsion bars?

A: There are significant differences between gundrilled, and solid torsion bars other than their weight. The hole in the center of gundrilled torsion bars creates two surfaces instead of one, allowing the bar to react differently than a solid bar to deflection. Gundrilled torsion bars have a faster spring rate than a solid torsion bar, which means they rebound, or spring back, quicker. The center diameter of a hollow torsion bar is adjusted to achieve the same spring rate as a solid bar. Therefore, no chassis adjustments need to be made when switching from solid to hollow bars.

Q: What is the effect of changing the angle of the top wing?

A: The greater the angle of attack, the higher the drag goes. It takes lots of power to overcome this drag. That power could instead be used for acceleration and top speed. The true angle of a wing relates to an imaginary line from the center of the leading edge through the center of the trailing edge, not including any wicker bill. The center of the downforce is far forward with this wing design, but if a wicker bill is added, the center of force moves rearward some.

Q: How do I save weight?

A: Weight is a touchy issue with many teams. If your car is overweight with the driver in the car, start with the driver, it's the cheapest weight savings. If your car is heavy without the driver then below are some ways to reduce weight without insane cost:

1. Start with a Retro Style Fuel Tank such as the Saldana 8 gallon. Saves 2 pounds dry- plus the tendency to over fuel, and fits standard mounts. (Fuel is 7 pounds per gallon).
2. Check all of your fuel and water lines to be sure you aren't routing them too far from where they ultimately need to go. Water and fuel are heavy. (see above)

Triple X Race Components 600 Mini Sprint Assembly Manual

3. Use non beadlock front wheels. For the rear wheels, choose Keizer for the truest, lightest, best value wheels for 600's.
4. Choose Joe's 4 Spoke or Keizer 3 Spoke front hubs. Combined sets save about a pound over standard weight front hubs.
5. A titanium bolt kit is available for the XXX Mini Sprint! This kit can replace the steel bolt kit. If you can't afford titanium, leave off unnecessary washers and be sure that all of your wheels at least have titanium bolts. Rotating weight is very important.
6. Use tubular torsion bars instead of solid bars. Saves about a pound just in the rear of the car alone.
7. Switch to an Antigravity Lithium Battery. Saves almost 5 pounds.

Q: How many links are in the chain?

A: The chain usually ends up being 124 links. One of those is the master or rivet link you must install. We highly suggest a rivet link instead of a master link to prevent failures. If you do use a master link, make sure the solid end of the clip is facing the sprocket so it does not fly off.

Q: What effect does changing the sprocket on the motor vs. the rear sprocket to achieve my gear ratio?

A: Rotating weight is important, but finding the correct gear ratio is more critical to a faster car. If at all possible, use a smaller sprocket in the rear, but **DO NOT SACRIFICE** gear ratio here.

Q: What battery works with the XXX battery box?

A: YTX9-BS and Antigravity 8 Cell Battery (use recommended case with Antigravity)



Triple X Race Components 600 Mini Sprint Assembly Manual

Gear Ratio Chart Yamaha R6 2006-2011

	1st	2nd	3rd	4th	5th
Ratio	2.583	2	1.67	1.444	1.286

Front	Back	1st	2nd	3rd	4th	5th
11	44	21.42	16.58	13.85	11.97	10.66
11	45	21.91	16.96	14.16	12.25	10.91
11	46	22.39	17.34	14.48	12.52	11.15
11	47	22.88	17.71	14.79	12.79	11.39
11	48	23.37	18.09	15.11	13.06	11.63
11	49	23.85	18.47	15.42	13.33	11.88
11	50	24.34	18.85	15.74	13.61	12.12
11	51	24.83	19.22	16.05	13.88	12.36
11	52	25.31	19.6	16.37	14.15	12.6
11	53	25.8	19.98	16.68	14.42	12.84
11	54	26.29	20.35	16.99	14.69	13.09
11	55	26.77	20.73	17.31	14.97	13.33
12	44	19.63	15.2	12.69	10.98	9.77
12	45	20.08	15.55	12.98	11.23	10
12	46	20.53	15.89	13.27	11.47	10.22
12	47	20.97	16.24	13.56	11.72	10.44
12	48	21.42	16.58	13.85	11.97	10.66
12	49	21.86	16.93	14.14	12.22	10.89
12	50	22.31	17.28	14.42	12.47	11.11
12	51	22.76	17.62	14.71	12.72	11.33
12	52	23.2	17.97	15	12.97	11.55
12	53	23.65	18.31	15.29	13.22	11.77
12	54	24.1	18.66	15.58	13.47	12
12	55	24.54	19	15.87	13.72	12.22
12	56	24.99	19.35	16.16	13.97	12.44
13	42	17.3	13.39	11.18	9.67	8.61
13	43	17.71	13.71	11.45	9.9	8.82
13	44	18.12	14.03	11.72	10.13	9.02
13	45	18.54	14.35	11.98	10.36	9.23
13	46	18.95	14.67	12.25	10.59	9.43
13	47	19.36	14.99	12.52	10.82	9.64
13	48	19.77	15.31	12.78	11.05	9.84
13	49	20.18	15.63	13.05	11.28	10.05
13	50	20.59	15.95	13.32	11.51	10.25

Front	Back	1st	2nd	3rd	4th	5th
13	51	21.01	16.27	13.58	11.74	10.46
13	52	21.42	16.58	13.85	11.97	10.66
13	53	21.83	16.9	14.11	12.2	10.87
13	54	22.24	17.22	14.38	12.43	11.07
13	55	22.65	17.54	14.65	12.66	11.28
14	41	15.68	12.14	10.14	8.77	7.81
14	42	16.06	12.44	10.39	8.98	8
14	43	16.45	12.73	10.63	9.19	8.19
14	44	16.83	13.03	10.88	9.41	8.38
14	45	17.21	13.33	11.13	9.62	8.57
14	46	17.59	13.62	11.37	9.84	8.76
14	47	17.98	13.92	11.62	10.05	8.95
14	48	18.36	14.21	11.87	10.26	9.14
14	49	18.74	14.51	12.12	10.48	9.33
14	50	19.12	14.81	12.36	10.69	9.52
14	51	19.51	15.1	12.61	10.9	9.71
14	52	19.89	15.4	12.86	11.12	9.9
14	53	20.27	15.7	13.11	11.33	10.09
14	54	20.65	15.99	13.35	11.55	10.28
14	55	21.04	16.29	13.6	11.76	10.47
15	41	14.64	11.33	9.46	8.18	7.29
15	42	14.99	11.61	9.69	8.38	7.46
15	43	15.35	11.89	9.92	8.58	7.64
15	44	15.71	12.16	10.15	8.78	7.82
15	45	16.06	12.44	10.39	8.98	8
15	46	16.42	12.71	10.62	9.18	8.18
15	47	16.78	12.99	10.85	9.38	8.35
15	48	17.13	13.27	11.08	9.58	8.53
15	49	17.49	13.54	11.31	9.78	8.71
15	50	17.85	13.82	11.54	9.98	8.89
15	51	18.21	14.1	11.77	10.18	9.06
15	52	18.56	14.37	12	10.38	9.24
15	53	18.92	14.65	12.23	10.58	9.42
15	54	19.28	14.93	12.46	10.78	9.6

Triple X Race Components 600 Mini Sprint Assembly Manual

Yamaha R6 600cc 99-05 Gear Chart

Primary Ratio = 1.954 :1

	1	2	3
Ratios X:1	2.846	1.947	1.555

Front	Back	1st	2nd	3rd
11	42	21.23	14.53	11.60
11	43	21.74	14.87	11.88
11	44	22.24	15.22	12.15
11	45	22.75	15.56	12.43
11	46	23.26	15.91	12.71
11	47	23.76	16.26	12.98
11	48	24.27	16.60	13.26
11	49	24.77	16.95	13.54
11	50	25.28	17.29	13.81
11	51	25.78	17.64	14.09
11	52	26.29	17.98	14.36
11	53	26.79	18.33	14.64
12	42	19.46	13.32	10.63
12	43	19.93	13.63	10.89
12	44	20.39	13.95	11.14
12	45	20.85	14.27	11.39
12	46	21.32	14.58	11.65
12	47	21.78	14.90	11.90
12	48	22.24	15.22	12.15
12	49	22.71	15.53	12.41
12	50	23.17	15.85	12.66
12	51	23.63	16.17	12.91
12	52	24.10	16.49	13.17
12	53	24.56	16.80	13.42
13	42	17.97	12.29	9.82
13	43	18.39	12.58	10.05
13	44	18.82	12.88	10.28
13	45	19.25	13.17	10.52
13	46	19.68	13.46	10.75
13	47	20.11	13.75	10.99
13	48	20.53	14.05	11.22
13	49	20.96	14.34	11.45
13	50	21.39	14.63	11.69
13	51	21.82	14.93	11.92
13	52	22.24	15.22	12.15
13	53	22.67	15.51	12.39

Front	Back	1st	2nd	3rd
14	42	16.68	11.41	9.12
14	43	17.08	11.69	9.33
14	44	17.48	11.96	9.55
14	45	17.87	12.23	9.77
14	46	18.27	12.50	9.98
14	47	18.67	12.77	10.20
14	48	19.07	13.04	10.42
14	49	19.46	13.32	10.63
14	50	19.86	13.59	10.85
14	51	20.26	13.86	11.07
14	52	20.66	14.13	11.29
14	53	21.05	14.40	11.50
15	42	15.57	10.65	8.51
15	43	15.94	10.91	8.71
15	44	16.31	11.16	8.91
15	45	16.68	11.41	9.12
15	46	17.05	11.67	9.32
15	47	17.42	11.92	9.52
15	48	17.80	12.17	9.72
15	49	18.17	12.43	9.93
15	50	18.54	12.68	10.13
15	51	18.91	12.94	10.33
15	52	19.28	13.19	10.53
15	53	19.65	13.44	10.74
16	42	14.60	9.99	7.98
16	43	14.95	10.22	8.17
16	44	15.29	10.46	8.36
16	45	15.64	10.70	8.55
16	46	15.99	10.94	8.74
16	47	16.34	11.18	8.93
16	48	16.68	11.41	9.12
16	49	17.03	11.65	9.31
16	50	17.38	11.89	9.50
16	51	17.73	12.13	9.69
16	52	18.07	12.36	9.88
16	53	18.42	12.60	10.06

Triple X Race Components 600 Mini Sprint Assembly Manual

Honda 600RR

Primary Ratio = 2.111 :1

	1	2	3	4	5
Ratios X:1	2.666	1.937	1.611	1.409	1.26

Front	Back	1st	2nd	3rd	4th	5th
11	44	22.51	16.36	13.60	11.90	10.64
11	45	23.02	16.73	13.91	12.17	10.88
11	46	23.53	17.10	14.22	12.44	11.12
11	47	24.05	17.47	14.53	12.71	11.36
11	48	24.56	17.84	14.84	12.98	11.61
11	49	25.07	18.21	15.15	13.25	11.85
11	50	25.58	18.59	15.46	13.52	12.09
11	51	26.09	18.96	15.77	13.79	12.33
11	52	26.60	19.33	16.08	14.06	12.57
11	53	27.12	19.70	16.39	14.33	12.82
11	54	27.63	20.07	16.69	14.60	13.06
11	55	28.14	20.45	17.00	14.87	13.30
12	44	20.64	14.99	12.47	10.91	9.75
12	45	21.10	15.33	12.75	11.15	9.97
12	46	21.57	15.67	13.04	11.40	10.20
12	47	22.04	16.02	13.32	11.65	10.42
12	48	22.51	16.36	13.60	11.90	10.64
12	49	22.98	16.70	13.89	12.15	10.86
12	50	23.45	17.04	14.17	12.39	11.08
12	51	23.92	17.38	14.45	12.64	11.30
12	52	24.39	17.72	14.74	12.89	11.53
12	53	24.86	18.06	15.02	13.14	11.75
12	54	25.33	18.40	15.30	13.38	11.97
12	55	25.79	18.74	15.59	13.63	12.19
13	44	19.05	13.84	11.51	10.07	9.00
13	45	19.48	14.15	11.77	10.30	9.21
13	46	19.91	14.47	12.03	10.52	9.41
13	47	20.35	14.78	12.30	10.75	9.62
13	48	20.78	15.10	12.56	10.98	9.82
13	49	21.21	15.41	12.82	11.21	10.03
13	50	21.65	15.73	13.08	11.44	10.23
13	51	22.08	16.04	13.34	11.67	10.43
13	52	22.51	16.36	13.60	11.90	10.64
13	53	22.94	16.67	13.86	12.13	10.84
13	54	23.38	16.99	14.13	12.36	11.05
13	55	23.81	17.30	14.39	12.58	11.25

Front	Back	1st	2nd	3rd	4th	5th
14	44	17.69	12.85	10.69	9.35	8.36
14	45	18.09	13.14	10.93	9.56	8.55
14	46	18.49	13.44	11.17	9.77	8.74
14	47	18.89	13.73	11.42	9.99	8.93
14	48	19.30	14.02	11.66	10.20	9.12
14	49	19.70	14.31	11.90	10.41	9.31
14	50	20.10	14.60	12.15	10.62	9.50
14	51	20.50	14.90	12.39	10.84	9.69
14	52	20.90	15.19	12.63	11.05	9.88
14	53	21.31	15.48	12.87	11.26	10.07
14	54	21.71	15.77	13.12	11.47	10.26
14	55	22.11	16.06	13.36	11.69	10.45
15	42	15.76	11.45	9.52	8.33	7.45
15	43	16.13	11.72	9.75	8.53	7.62
15	44	16.51	11.99	9.98	8.72	7.80
15	45	16.88	12.27	10.20	8.92	7.98
15	46	17.26	12.54	10.43	9.12	8.16
15	47	17.63	12.81	10.66	9.32	8.33
15	48	18.01	13.08	10.88	9.52	8.51
15	49	18.38	13.36	11.11	9.72	8.69
15	50	18.76	13.63	11.34	9.91	8.87
15	51	19.13	13.90	11.56	10.11	9.04
15	52	19.51	14.18	11.79	10.31	9.22
15	53	19.89	14.45	12.02	10.51	9.40
15	54	20.26	14.72	12.24	10.71	9.58
15	55	20.64	14.99	12.47	10.91	9.75
16	44	15.48	11.24	9.35	8.18	7.31
16	45	15.83	11.50	9.56	8.37	7.48
16	46	16.18	11.76	9.78	8.55	7.65
16	47	16.53	12.01	9.99	8.74	7.81
16	48	16.88	12.27	10.20	8.92	7.98
16	49	17.24	12.52	10.42	9.11	8.15
16	50	17.59	12.78	10.63	9.29	8.31
16	51	17.94	13.03	10.84	9.48	8.48
16	52	18.29	13.29	11.05	9.67	8.64
16	53	18.64	13.54	11.27	9.85	8.81

Triple X Race Components 600 Mini Sprint Assembly Manual

Suzuki GSX-R 2006-2010

Ratio 1st 2nd 3rd 4th 5th
 2.786 2.053 1.714 1.5 1.348

Front	Back	1st	2nd	3rd	4th	5th		Front	Back	1st	2nd	3rd	4th	5th
11	44	22	16.21	13.53	11.84	10.64		13	52	22	16.21	13.53	11.84	10.64
11	45	22.5	16.58	13.84	12.11	10.89		13	53	22.42	16.52	13.79	12.07	10.85
11	46	23	16.95	14.15	12.38	11.13		13	54	22.84	16.83	14.05	12.3	11.05
11	47	23.5	17.32	14.46	12.65	11.37		13	55	23.27	17.15	14.31	12.53	11.26
11	48	24	17.68	14.76	12.92	11.61		14	41	16.11	11.87	9.91	8.67	7.79
11	49	24.5	18.05	15.07	13.19	11.85		14	42	16.5	12.16	10.15	8.88	7.98
11	50	25	18.42	15.38	13.46	12.1		14	43	16.89	12.45	10.39	9.09	8.17
11	51	25.5	18.79	15.69	13.73	12.34		14	44	17.28	12.74	10.63	9.31	8.36
11	52	26	19.16	15.99	14	12.58		14	45	17.68	13.03	10.88	9.52	8.55
11	53	26.5	19.53	16.3	14.27	12.82		14	46	18.07	13.32	11.12	9.73	8.74
11	54	27	19.89	16.61	14.54	13.06		14	47	18.46	13.61	11.36	9.94	8.93
11	55	27.5	20.26	16.92	14.81	13.3		14	48	18.86	13.89	11.6	10.15	9.12
12	44	20.17	14.86	12.41	10.86	9.76		14	49	19.25	14.18	11.84	10.36	9.31
12	45	20.62	15.2	12.69	11.1	9.98		14	50	19.64	14.47	12.08	10.58	9.5
12	46	21.08	15.54	12.97	11.35	10.2		14	51	20.03	14.76	12.33	10.79	9.69
12	47	21.54	15.87	13.25	11.6	10.42		14	52	20.43	15.05	12.57	11	9.88
12	48	22	16.21	13.53	11.84	10.64		14	53	20.82	15.34	12.81	11.21	10.07
12	49	22.46	16.55	13.82	12.09	10.87		14	54	21.21	15.63	13.05	11.42	10.26
12	50	22.91	16.89	14.1	12.34	11.09		14	55	21.61	15.92	13.29	11.63	10.45
12	51	23.37	17.22	14.38	12.58	11.31		15	41	15.03	11.08	9.25	8.09	7.27
12	52	23.83	17.56	14.66	12.83	11.53		15	42	15.4	11.35	9.47	8.29	7.45
12	53	24.29	17.9	14.94	13.08	11.75		15	43	15.77	11.62	9.7	8.49	7.63
12	54	24.75	18.24	15.23	13.32	11.97		15	44	16.13	11.89	9.92	8.69	7.81
12	55	25.21	18.57	15.51	13.57	12.2		15	45	16.5	12.16	10.15	8.88	7.98
12	56	25.66	18.91	15.79	13.82	12.42		15	46	16.87	12.43	10.38	9.08	8.16
13	42	17.77	13.09	10.93	9.57	8.6		15	47	17.23	12.7	10.6	9.28	8.34
13	43	18.19	13.4	11.19	9.79	8.8		15	48	17.6	12.97	10.83	9.48	8.52
13	44	18.61	13.72	11.45	10.02	9.01		15	49	17.97	13.24	11.05	9.67	8.69
13	45	19.04	14.03	11.71	10.25	9.21		15	50	18.33	13.51	11.28	9.87	8.87
13	46	19.46	14.34	11.97	10.48	9.42		15	51	18.7	13.78	11.5	10.07	9.05
13	47	19.88	14.65	12.23	10.71	9.62		15	52	19.07	14.05	11.73	10.26	9.22
13	48	20.31	14.96	12.49	10.93	9.83		15	53	19.43	14.32	11.95	10.46	9.4
13	49	20.73	15.28	12.75	11.16	10.03		15	54	19.8	14.59	12.18	10.66	9.58
13	50	21.15	15.59	13.01	11.39	10.23		15	55	20.17	14.86	12.41	10.86	9.76
13	51	21.58	15.9	13.27	11.62	10.44								

Triple X Race Components 600 Mini Sprint Assembly Manual

MY WINNING TIPS, TRICKS AND NOTES:

